

L16 ANSWER 2 OF 48 WPIX (C) 2003 THOMSON DERWENT

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DNC C2001-144126

TI Extrusion molded foamable styrene resin particle for foam molded product, consists of foaming agent and cell regulator which contains **polyethylene wax** whose elastic modulus is reduced by dynamic viscoelasticity test.

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PI JP 2001181434 A 20010703 (200152)\* 11p C08J009-18

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IC ICM C08J009-18

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ICI C08L025-04; C08L023:06

AB JP2001181434 A UPAB: 20010914

NOVELTY - Foamable styrene resin particle, obtained by extrusion molding, contains foaming agent and cell regulator. The amount of cell regulator comprises 0.05-2 weight% of the total weight of the resin particle. The cell regulator is a **polyethylene wax**, whose complex elastic modulus by dynamic viscoelasticity test is reduced to a gradient range of -3 multiply 107 to -5 multiply 106 at 115-125 deg. C.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a colored foamable styrene resin particle which contains foaming agent, colorant and cell regulator.

USE - For a foam molded product.

ADVANTAGE - The pre-expansion particle having uniform cell structure and cell dimension provides a foamable styrene resin particle without cell irregularity and/or cell roughness. The need for a maturation process for forming the resin particle is eliminated. The colored resin particles provide a uniformly colored molded product. Dwg.0/4

ABEX JP 2001181434 AUPTX: 20010914

EXAMPLE - (In weight parts) A foamable styrene resin particle of off-grade with diameter of 0.5 mm was prepared. Pentane foaming agent (6 weight%) and a copper phthalocyanine group coloring agent (0.3 weight%) were added to the resin particle. **Polyethylene wax** (0.1 weight%) which had a complex elastic modulus by dynamic viscoelasticity test of  $-1.61 \times 10^7$  at 118.5-120 degrees C was added. The mixture was extruded in the form of strand. The strand was cut to form colored pellets of foamable styrene resin particle. A fusion promoter (0.2 weight parts) was added to the colored pellets (100 wt.pts), the pellet was then pre-expanded and foamed in a shaping die. A resin foam molded product with dimension of 300 mm x 300 mm x 50 mm was prepared. The molded product had no cell irregularity or cell roughness, and had color uniformity. The rate of fusion of number of foam particles on the torn surface of the molded product when the molded product was fractured, was 100%.

FS CPI

FA AB

MC CPI: A04-C01A; A04-G01E; A08-B01; A08-E01; A08-S07; A12-S01A